

Scientific Method

Name _____

What is the scientific method? It is a _____ that is used to find _____ to questions about the world around us.

Is there only one "scientific method"? No, there are several versions of the scientific method. Some versions have more _____, while others may have only a few. However, they all begin with the identification of a _____ or a _____ to be answered based on observations of the world around us and provide an _____ method for conducting and analyzing an experiment.

What is a hypothesis? It is an _____ based on observations and your knowledge of the topic.

What is data? It is _____ gathered during an experiment.

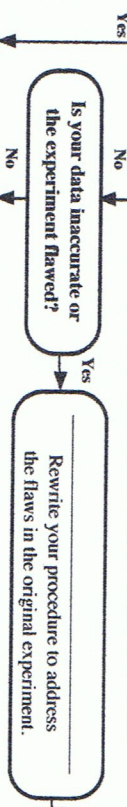
What do you want to know or explain? Use observations you have made to write a question that addresses the problem or topic you want to investigate.

What do you think will happen? Predict the answer to your question or the outcome of the experiment.

How will you test your hypothesis? Develop a procedure for a reliable experiment and address safety rules.

Follow the steps in your procedure to perform your experiment. Record data and observations!

Is the data reliable? Does your data and observations from the experiment support your hypothesis?



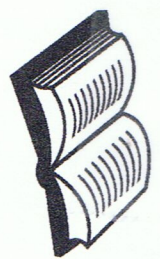
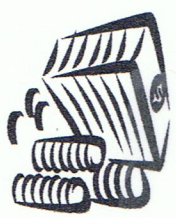
Write a conclusion that summarizes the important parts of your experiment and the results.

Word bank:
 analyze data
 form hypothesis
 identify problem
 communicate results
 perform experiment
 problem

modify experiment steps
 information
 educated guess
 modify experiment
 create experiment
 question

T. Trimpe 2003 <http://sciencespot.net/>

Circle the most reasonable unit of measurement



kilogram milligram gram kilogram milligram gram



kilogram milligram gram kilogram milligram gram

Mass, Volume, or Length?

| | Unit | Mass, Volume, or Length |
|---|---------|-------------------------|
| 1 | 23.1 mg | mass |
| 2 | 112 kL | |
| 3 | 5.02 mm | |
| 4 | 677 g | |
| 5 | 150 cm | |



Smithers thinks that a special juice will increase the productivity of workers. He creates two groups of 50 workers each and assigns each group the same task (in this case, they're supposed to staple a set of papers). Group A is given the special juice to drink while they work. Group B is not given the special juice. After an hour, Smithers counts how many stacks of papers each group has made. Group A made 1,587 stacks, Group B made 2,113 stacks.

- Identify the:
1. Control Group
 2. Independent Variable
 3. Dependent Variable
 4. What should Smithers' conclusion be?
 5. How could this experiment be improved?